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(54) Title: TRANSDERMAL DRUG DELIVERY SYSTEM

(57) Abstract: The invention provides a transdermal delivery system for local anesthetic, immunosuppressive and neurologically effective drugs, as well as for polypeptides and protein-based drugs, comprising a local anesthetic, immunosuppressive or neurologically effective drug, as well as a polypeptide or protein-based drug in combination with water-miscible tetraglycol and water for dissolving the drug in hydrogel form.



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AMENDED CLAIMS

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original claim 1 amended; original claim 8 deleted, new claim 13 added]

1. A transdermal delivery system for local anesthetic, immunosuppressive and neurologically effective drugs, as well as for polypeptides and protein-based drugs, comprising a local anesthetic, immunosuppressive or neurologically effective drug, as well as a polypeptide or protein-based drug in combination with water-miscible tetraglycol and water for dissolving said drug in hydrogel form, wherein said transdermal delivery system is in the form of a microemulsion.
2. A transdermal delivery system according to claim 1, further comprising an ionized polymer.
3. A transdermal delivery system according to claim 2, wherein said ionized polymer is selected from the group consisting of cationized guar gum, cellulose derivatives, acrylic polymers, polysaccharides, lipids, proteins and polyhydroxy compounds.
4. A transdermal delivery system according to claim 2, wherein said ionized polymer is a guar-based polymer, which serves as a gelling agent for said composition.
5. A transdermal delivery system according to claim 3, wherein said guar-based polymer is hydroxypropyl guar hydroxypropyltrimonium chloride.
6. A transdermal delivery system according to claim 1, wherein said drug is selected from the group consisting of granisetron, lidocaine, and cyclosporine.
7. A transdermal delivery system according to claim 1, wherein said transdermal delivery system is in the form of a hydrogel patch.
9. A transdermal delivery system according to claim 1, further comprising a skin penetration enhancer.
10. A transdermal delivery system according to claim 9, wherein said skin penetration enhancer is a non-ionic surfactant.
11. A transdermal delivery system according to claim 10, wherein said non-ionic surfactant is selected from the group consisting of sorbitan sesquioleate, cetostearyl alcohol, polysorbate 60, sorbitan monostearate, sorbitan

monooleate, polyoxyethylene 23 lauryl alcohol, glyceryl mono/di-oleate and mixtures thereof.

12. A transdermal delivery system for an alcohol-miscible drug comprising an alcohol-miscible drug in combination with water-miscible tetraglycol and water for dissolving said drug in hydrogel form.
13. A topical delivery system for local anesthetic, immunosuppressive and neurologically effective drugs, as well as for polypeptides and protein-based drugs, comprising a local anesthetic, immunosuppressive or neurologically effective drug, as well as a polypeptide or protein-based drug in combination with water-miscible tetraglycol and water for dissolving said drug in hydrogel form, wherein said topical delivery system is in the form of a microemulsion.